

### REMARKS

Claims 1-29 are pending in the present application. Reconsideration of the claims is respectfully requested.

#### **I. Objection to the Abstract**

The Office Action objects to the Abstract because the Abstract is a copy of the Summary. This objection is respectfully traversed. While the Abstract may bear some similarities to the Summary section of the instant disclosure, no such grounds for objection exist. The originally filed Abstract complies with the proper content of an abstract of the disclosure, as stated in the Office Action. Appellants submit that the objection should be withdrawn because the Abstract complies with all rules and statutes.

#### **II. 35 U.S.C. § 102, Anticipation**

The Office Action rejects claims 1-29 under 35 U.S.C. § 102 as being anticipated by *Kenner et al.* (U.S. Patent No. 6,496,856 B1). This rejection is respectfully traversed.

As to claim 1, the Office Action states:

As per independent claim 1, Kenner teaches a video clip storage and retrieval system for user to receive comprehensive data collected from one or more databases by request from a user's multimedia computer. The user request is transmitted to the user's primary index manager via a local storage and retrieval unit (SRU) (col. 3, lines 6-10 and 34-37). Kenner teaches the claimed step of "organizing the set of data into a plurality of related sets of data" as the SRU command logic sees to the duplication of popular videos on alternate SRUs 26. It also places copies of video segments on SRUs geographically closer to the user most interest in those videos. Duplication of data is done during the non-peak periods of the system (Fig. 1, col. 8, lines 27-32). Further, Kenner teaches the claimed step of "assigning, by a set of services, management of a related set of data to a service within the distributed set of services based on an optimization criteria" as the primary index manager (PIM) determines whether it is managing an extended SRU 26 based on searching through audio-visual data index database to identify the video clips that have been accessed most frequently (FDVs) (the optimization criteria is the most frequently accessing compared a predetermined value.) The video clips are duplicated on the identified extended SRUs. (Fig. 1, col. 8, lines 35-47). Finally, Kenner teaches the claimed step of "responsive to failure of a service within the distributed set of services, transferring management of the related set of data

managed by the failed service to another service within the distributed set of services" as whenever an SRU fails to deliver the requested video clip, the DSI 30 increments the SRU under-run counter for that SRU and eventually communicates this information to the PIM 22. The PIM 22 directs further requests to alternate SRUs for video clip information (Fig. 1, col. 14, lines 20-28).

Office Action dated November 2, 2004, pages 3-4. Applicants respectfully disagree. *Kenner* teaches a video storage and retrieval system. Requests for video clips are received by a local primary index manager (PIM). A local storage and retrieval unit (SRU) provides temporary storage for the user's most requested video clips. The local SRU is polled for the requested video clip. If the requested video clip is not stored at the local SRU, then a data sequencing interface (DSI) retrieves the video clip from an extended and remote SRU and transmits the video clip to the local SRU. See *Kenner*, col. 3, lines 21-64. The PIM records how often particular video clips are requested and determines whether video clips should be duplicated at a particular local SRU. See *Kenner*, col. 4, lines 13-19. Thus, *Kenner* teaches a storage and retrieval system in which data is duplicated to whichever SRU needs the data. There is no optimization as every SRU that needs a video clip has the video clip transmitted to it for duplication. Also, there is no provision for when an SRU fails.

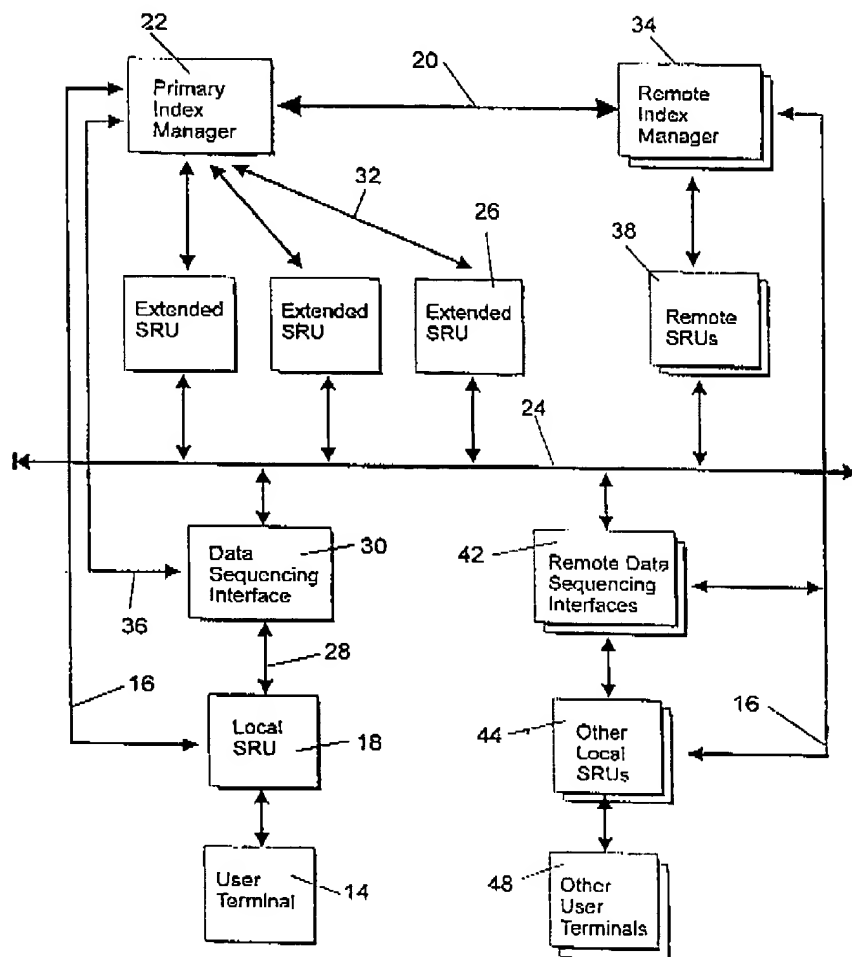
In contradistinction, the present invention manages a set of data by a distributed set of services. Claim 1, for example, recites:

1. A method of managing a set of data by a distributed set of services, comprising the steps of:
  - organizing the set of data into a plurality of related sets of data;
  - assigning, by a set of services, management of a related set of data to a service within the distributed set of services based on an optimization criteria; and
  - responsive to failure of a service within the distributed set of services, transferring management of the related set of data managed by the failed service to another service within the distributed set of services.

The set of services assign management of related sets of data to services within the distributed set of services based on an optimization criteria. *Kenner* fails to teach assignment of data sets based on an optimization criteria. *Kenner* merely duplicates video clips to whichever SRU needs them.

Furthermore, the present invention transfers management of a related set of data managed by a failed service to another service within the distributed set of services. The Office Action alleges that *Kenner* teaches this feature in Figure 1 and at col. 14, lines 20-28. Figure 1 is as shown below:

FIGURE 1



Thes cited portion of *Kenner* states:

Whenever an SRU fails to deliver the requested video clip, the DSI 30 increments the SRU under-run counter for that SRU and eventually communicates this information to the PIM 22. If the SRU under-run count exceeds a predetermined threshold value (communicated to the DSI 30 upon creation), the PIM 22 directs further requests away from this affected SRU by having the DSI 30 query

alternate SRUs for the video clip information. In the event that the video clip is only stored at this location, then a delay will be encountered as the DSI 30 waits for the video information to be downloaded. The PIM 22 will also direct that the number of FDVs be decremented for this affected extended SRU 26.

*Kenner*, col. 14, lines 20-32. Thus, *Kenner* relies on video clips being duplicated. *Kenner* does not teach assigning management of a video clip to another SRU. If a request is handled by another SRU due to failure of a SRU, the other SRU already manages the video clip. There is no change in the assignment of management. In fact, as seen above, *Kenner* teaches that if a video clip is managed by only one SRU and that SRU fails, then a delay will be inevitable. *Kenner* does not teach what happens if a SRU fails to deliver the video clip altogether.

Furthermore, *Kenner* does not teach that assignment of management of data sets is changed based on an optimization criteria. In fact, the Office Action alleges that *Kenner* teaches an optimization criteria that is "the most frequently accessing compared a predetermined value." However, *Kenner* does not teach that this same optimization criteria is used to assign a data set to another SRU when an SRU fails. In fact, *Kenner* only teaches that a request for a video clip may be handled by another SRU only if that other SRU already manages the same video clip.

The applied reference fails to teach or suggest each and every claim limitation. Therefore, *Kenner* does not anticipate claim 1. Independent claims 10, 12, and 21 recite subject matter addressed above with respect to claim 1 and are allowable for similar reasons. Since claims 2-5, 13-16, and 22-25 depend from claims 1, 12, and 22, the same distinctions between *Kenner* and the invention recited in claims 1, 12, and 22 apply for these claims. Additionally, claims 2-5, 13-16, and 22-25 recite other additional combinations of features not suggested by the reference.

With respect to claim 6, the Office Action states:

10. As per independent claim 6, *Kenner* teaches a video clip storage and retrieval system for user to receive comprehensive data collected from one or more databases by request from a user's multimedia computer. The user request is transmitted to the user's primary index manager via a local storage and retrieval unit (SRU) (col. 3, lines 6-10 and 34-37). *Kenner* teaches the claimed step of "organizing the set of

data into a plurality of related sets of data" as the SRU command logic sees to the duplication of popular videos on alternate SRUs 26. It also places copies of video segments on SRUs geographically closer to the user most interest in those videos. Duplication of data is done during the non-peak periods of the system (Fig. 1, col. 8, lines 27-32). Further, Kenner teaches the claimed step of "assigning, by a set of services, management of a related set of data to a service within the distributed set of services based on an optimization criteria" as the primary index manager (PIM) determines whether it is managing an extended SRU 26 based on searching through audio-visual data index database to identify the video clips that have been accessed most frequently (FDVs) (the optimization criteria is the most frequently accessing compared a predetermined value). The video clips are duplicated on the identified extended SRUs. (Fig. 1, col. 8, lines 35-47). Further, Kenner teaches the claimed step of "responsive to an additional service joining the distributed set of services, querying management of the data within the related sets of data" as the SRU under-run counter parameter identifies the location of over-accessed SRUs, audio-visual data will be moved or copied from heavily loaded SRUs to lightly loaded SRUs in an effort to distribute or flatten SRU demand (Fig. 1, col. 14, lines 33-38). Finally, Kenner teaches the claimed step of "assigning management of a related set of data to the additional service within the distributed set of services based on the optimization criteria" as the SRU under-run counter parameter identifies the location of over-accessed SRUs, audio-visual data will be moved or copied from heavily loaded SRUs to lightly loaded SRUs in an effort to distribute or flatten SRU demand (Fig. 1, col. 14, lines 33-38).

Office Action dated November 2, 2004, pages 7-8. Applicants respectfully disagree. The cited portion of *Kenner* states:

In addition, since the SRU under-run count parameter identifies the location of "over-accessed" SRUs, audio-visual data will be moved or copied from these heavily loaded SRUs to more lightly loaded SRUs (based on their under-run levels), in an effort to distribute or flatten SRU demand. This load management process will occur during off-peak hours. The SRUs selected for copies or transferal of data will be identified from video usage information obtained from the "Audio-Visual Access List" located on the PIM 22.

*Kenner*, col. 14, lines 33-42. *Kenner* does indeed teach an under-run count parameter that identifies the location of over-accessed SRUs. *Kenner* does indeed teach that data may be moved or copied from heavily loaded SRUs to more lightly loaded SRUs.

*Kenner* does indeed teach that load management occurs during off-peak hours. However, *Kenner* does not teach or fairly suggest responsive to an additional service joining the distributed set of services, querying management of the data within the related sets of data, as alleged in the Office Action. In no way is an under-run count parameter equivalent to a data service being added to a distributed set of data services. The Office Action accurately characterizes the teachings of the reference, but fails to proffer any analysis as to why the teachings are somehow related to the claimed invention.

The applied reference fails to teach or suggest each and every claim limitation. Therefore, *Kenner* does not anticipate claim 6. Independent claims 11, 17, and 26, as well as dependent claims 5, 16, and 25, recite subject matter addressed above with respect to claim 6 and are allowable for similar reasons. Since claims 7-9, 18-20, and 27-29 depend from claims 6, 17, and 26, the same distinctions between *Kenner* and the invention recited in claims 6, 17, and 26 apply for these claims. Additionally, claims 7-9, 18-20, and 27-29 recite other additional combinations of features not suggested by the reference.

More particularly, with respect to claim 2, the Office Action states:

As per dependent claim 2, *Kenner* teaches the claimed step of "the optimization criteria is based on location of the service within the distributed set of services" as the Audio-visual data index database is searched to determine most frequently accessed SRUs in comparison to predetermined value. Those extended SRUs are selected for the duplication or transferal. The selected SRUs are evaluated to whether they can accept duplicate copy of the video clip. If so, the FDV is duplicated on the identified extended SRU 26 (Fig. 1, col. 8, lines 38-47).

Office Action dated November 2, 2004, page 5. Applicants generally agree with the characterization of the teachings of *Kenner* in that *Kenner* does teach that video clips are duplicated based on whether the video clip is most frequently requested. However, the Office Action proffers no explanation as to how duplicating video clips based on the most frequently requested is somehow equivalent to assigning management of data sets by data services based on location of the services. Applicants submit that *Kenner*, in fact, does not teach or fairly suggest assigning management of data sets by data services based on location of the data services. The Office Action does not establish a *prima facie* case of

anticipation. Claims 7, 13, 18, 22, and 27 recite subject matter addressed above with respect to claim 2 and are allowable for similar reasons.

With respect to claim 3, the Office Action states:

As per claim 3, Kenner teaches the claimed step of "detecting the failed service by a set of remaining services within the distributed set of services" as whenever an SRU fails to deliver the requested video clip, the DSI 30 increments the SRU under-run counter for that SRU and eventually communicates this information to the PIM 22 (Fig. 2, col. 14, lines 20-23). Further, Kenner teaches the claimed step of "examining, by the set of remaining services within the distributed set of services, the related set of data managed by the failed service" as if the SRU under-run count exceeds a predetermined threshold value the PIM 32 directs further requests away from this affected SRU by the DSI 30 query alternate SRUs for the video clip information (Fig. 1, col. 14, lines 23-28).

Office Action dated November 2, 2004, page 5. Applicants generally agree with the characterization of the teachings of *Kenner* in that *Kenner* does teach an under-run count and directing requests to other SRUs. However, the Office Action proffers no explanation as to why an under-run count and directing requests to other SRUs is somehow equivalent to examining by the set of remaining services the related set of data managed by a failed service. Applicants submit that *Kenner*, in fact, does not teach or fairly suggest a distributed set of data services wherein remaining data services examine data sets managed by a failed data service. The Office Action does not establish a *prima facie* case of anticipation. Claims 8, 14, 19, 23, and 28 recite subject matter addressed above with respect to claim 3 and are allowable for similar reasons.

With respect to claim 4, the Office Action states:

As per dependent claim 4, Kenner teaches the claimed step of "determining whether data within the related set of data are at the same location as a service within the set of remaining services" as in the event that the video clip is only stored at this location, then a delay will be encountered as the DSI 30 waits for the video information to be downloaded. The PIM 22 will also direct that the number of FDVs to be decremented for this affected extended SRU 26 (Fig. 1, col. 14, lines 28-32). Further, Kenner teaches the claimed step of "responsive to data within the related set of data at the same location as a service within the set of remaining services, attaching the data to the service" as the SRU under-run counter parameter identifies the location of over-accessed SRUs, audio-visual data will be moved or copied from heavily loaded

SRUs to lightly loaded SRUs in an effort to distribute or flatten SRU demand (Fig. 1, col. 14, lines 33-38).

Office Action dated November 2, 2004, page 5. Again, the Office Action characterizes what the reference teaches and then concludes that the claimed features are taught. Applicants submit that *Kenner*, in fact, does not teach or fairly suggest determining whether data within the related set of data are at the same location as a service within the set of remaining services. The Office Action merely cites seemingly arbitrary portions of the reference and baldly asserts that the claimed features are taught with no analysis as to why the teachings are somehow equivalent. Therefore, the Office Action fails to establish a *prima facie* case of anticipation. Claims 9, 15, 20, 24, and 29 recite subject matter addressed above with respect to claim 4 and are allowable for similar reasons.

Therefore, Applicants respectfully request withdrawal of the rejection of claims 1-29 under 35 U.S.C. § 102.

Furthermore, *Kenner* does not teach, suggest, or give any incentive to make the needed changes to reach the presently claimed invention. *Kenner* actually teaches away from the presently claimed invention because it teaches duplicating data as needed, as opposed to managing assignment of data sets by data services based on an optimization criteria and re-assigning data sets responsive to failure of a service or an added service, as in the presently claimed invention. Absent the Office Action pointing out some teaching or incentive to implement *Kenner* to assign management of data sets based on an optimization criteria, one of ordinary skill in the art would not be led to modify *Kenner* to reach the present invention when the reference is examined as a whole. Absent some teaching, suggestion, or incentive to modify *Kenner* in this manner, the presently claimed invention can be reached only through an improper use of hindsight using Applicants' disclosure as a template to make the necessary changes to reach the claimed invention.



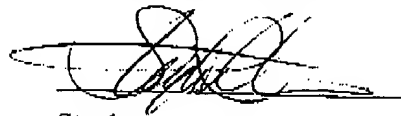
**III. Conclusion**

It is respectfully urged that the subject application is patentable over the prior art of record and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,



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